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VIA: Electronic Submission
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For Petitioner California Sportfishing Protection Alliance

BEFORE THE STATE WATER RESOURCES CONTROL BOARD

In the Matter of Waste Discharge Requirements For)
Indian Springs Elementary School Geothermal) **PETITION FOR REVIEW**
Heating System, Shasta County, California Regional)
Water Quality Control Board – Central Valley)
Region Order No. R5-2006-0104; NPDES No.)
CA0081655)

Pursuant to Section 13320 of California Water Code and Section 2050 of Title 23 of the California Code of Regulations (CCR), California Sportfishing Protection Alliance (“CSPA” or “petitioner”) petitions the State Water Resources Control Board (State Board) to review and vacate the final decision of the California Regional Water Quality Control Board for the Central Valley Region (“Regional Board”) in adopting Waste Discharge Requirements (NPDES No. CA0081655) Indian Springs Elementary School Geothermal Heating System, Shasta County, on 22 September 2006. *See* Order No. R5-2006-0104. The issues raised in this petition were raised in timely written comments and direct testimony.

1. NAME AND ADDRESS OF THE PETITIONERS:

California Sportfishing Protection Alliance
3536 Rainier Avenue
Stockton, California 95204
Attention: Bill Jennings, Executive Director

2. THE SPECIFIC ACTION OR INACTION OF THE REGIONAL BOARD WHICH THE STATE BOARD IS REQUESTED TO REVIEW AND A COPY OF ANY ORDER OR RESOLUTION OF THE REGIONAL BOARD WHICH IS REFERRED TO IN THE PETITION:

Petitioner seeks review of Order No. R5-2006-0104, Waste Discharge Requirements (NPDES No. CA0081655) for Indian Springs Elementary School Geothermal Heating System, Shasta County. A copy of the order adopted by the Regional Board at its 22 September 2006 Board meeting is attached hereto as Attachments A.

3. THE DATE ON WHICH THE REGIONAL BOARD ACTED OR REFUSED TO ACT OR ON WHICH THE REGIONAL BOARD WAS REQUESTED TO ACT:

22 September 2006

4. A FULL AND COMPLETE STATEMENT OF THE REASONS THE ACTION OR FAILURE TO ACT WAS INAPPROPRIATE OR IMPROPER:

CSPA submitted a detailed comment letter on 19 September 2006. This letter and the following comments set forth in detail the reasons and points and authorities why CSPA believes the Order fails to comport with statutory and regulatory requirements. CSPA also presented detailed comments during the 22 September 2006 hearing. CSPA only received copies of the hearing tapes 19 October 2006 and has not had time to adequately review them but believes its verbal comments further support this petition. The specific reasons the adopted Order is improper are:

- A. The permit does not contain an Effluent Limitation for Zinc in accordance with the SIP, CTR and Federal Regulations 40 CFR 122.44.

The Order Fact Sheet states: "Using the worst-case ambient (lowest upstream receiving water) measured hardness from the effluent and receiving water data (43 mg/L), the applicable chronic criterion (maximum four-day average concentration) and the applicable acute criterion (maximum one-hour average concentration) are both 59 mg/L. As zinc has been detected at 92 mg/L in the effluent, it would appear that a reasonable potential for exceeding an applicable receiving water criterion has been demonstrated." Unfortunately, Regional Board staff then state that "A closer examination of the data, however, reveals that the 92 mg/L value is a probable outlier" and that "More

important than the purely statistical inference is the fact that the 92 mg/L sample was the only one taken by the Discharger...” and then concludes “...there is no reasonable potential for the discharge to cause the applicable water quality criterion for zinc to be exceeded and therefore no requirement for an effluent limit.” SIP Section 1.2 states that the Regional Board shall use all available, relevant, representative data and information as determined by the RWQCB. The SIP, Section 1.2, further gives examples where data should be judged inappropriate (e.g. erroneously reported, not representative, questionable QA/QC). The SIP does not allow the Regional Board to throw out data simply to avoid effluent limitations. The Regional Board acknowledges that a single Discharge sample was collected during the life of the Permit. The Regional Board does not discuss any inadequacies with the QA/QC of the sample it is proposing to discard. The Regional Board does not discuss the fact the priority pollutants are generally *not* found in wastewater discharges at consistent concentrations; peaks are the norm not the exception. While one may expect groundwater quality to be consistent, there is insufficient data to show the geothermal impacts. The data clearly shows that the discharge threatens to exceed standards for zinc and is therefore required, in accordance with the SIP, CTR and Federal Regulations 40 CFR 122.44, to include an effluent limitation.

- B. The Basin Plan prohibits the discharge of wastewater to low flow streams as a permanent means of disposal.

The Fact Sheet at page F-13 acknowledges that Indian Springs Creek is a seasonal intermittent stream. The Basin Plan, Implementation, Page IV-24-00, Regional Water Board prohibitions, states that: “Water bodies for which the Regional Water Board has held that the direct discharge of waste is inappropriate as a permanent disposal method include sloughs and streams with intermittent flow or limited dilution capacity.” The Order characterizes the receiving stream as low flow, or ephemeral, with no available dilution. The Order does not discuss any efforts to eliminate the discharge to surface water and compliance with the Basin Plan Prohibition. Federal Regulation 40 CFR 122.4 states that no permit shall be issued for any discharge when the conditions of the permit do not provide for compliance with the applicable requirements of the CWA and are inconsistent with a plan or plan amendment. The permit must be remanded back to the Regional Board to be amended to require that the Discharger develop a workplan to eliminate the wastewater discharge to surface water in accordance with the Basin Plan.

- C. The Order contains an insufficient dataset to determine Reasonable Potential in violation of Federal Regulation 40 CFR 122.21 (e) and there is insufficient information to determine if the Order protects beneficial uses in accordance with applicable regulations.

The Permit and Fact Sheet are lacking any information on whether the discharge was sampled for all priority pollutants or all CTR and NTR constituents. The Permit and Fact Sheet are lacking any information regarding whether the Discharger was required to sample for all priority pollutants or all CTR and NTR constituents. The Permit and Fact Sheet are lacking any information regarding whether the Discharger complied with the

SIP in characterizing the wastewater discharge. The Permit and Fact Sheet are lacking any information that would allow one to determine if a reasonable potential was adequately conducted. The Permit and Fact Sheet are lacking any information regarding whether the Discharger submitted a complete Report of Waste Discharge in accordance with Federal Regulation, 40 CFR 122.21 (e).

Federal Regulation, 40 CFR 122.44(d)(1)(i) states, “Limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality.” The Regional Board has not required the Discharger to conduct sampling to determine if the discharge presents a reasonable potential to exceed water quality standards and objectives. Water Code, section 13377, requires that: “Notwithstanding any other provision of this division, the state board and the regional boards shall, as required or authorized by the Federal Water Pollution Control Act, as amended, issue waste discharge and dredged or fill material permits which apply and ensure compliance with all applicable provisions of the act and acts amendatory thereof or supplementary, thereto, together with any more stringent effluent standards or limitations necessary to implement water quality control plans, or for the protection of beneficial uses, or to prevent nuisance.” Federal Regulation, 40 CFR 122.4 (a), (d) and (g) require that no permit may be issued when the conditions of the permit do not provide for compliance with the applicable requirements of the CWA, or regulations promulgated under the CWA, when imposition of conditions cannot ensure compliance with applicable water quality requirements and for any discharge inconsistent with a plan or plan amendment approved under Section 208(b) of the CWA. The Order must be remanded back to the Regional Board to require adequate characterization of the discharge and include appropriate Effluent Limitations.

- D. In accordance with Federal Regulations, 40 CFR 122.44, an effluent limitation for temperature is required since the discharge presents a reasonable potential to exceed a water quality objective.

Spent geothermal water, which has passed through the heat exchanger, is discharged to Indian Springs Creek, a tributary to the Pit River. The Fact Sheet states that the temperature range of the discharge is 112° F in winter to 102° F in summer. Indian Springs Creek is a seasonal intermittent stream. Natural hot springs discharge elevated temperature geothermal water to Indian Springs Creek at a point downstream of the outfall but before the creek’s confluence with the Pit River. The Basin Plan Indian Springs Creek has the beneficial uses of both COLD and WARM. The Basin Plan includes the objective that “[a]t no time or place shall the temperature of COLD or WARM intrastate waters be increased more than 5° F above natural receiving water temperature.” The Permit contains a Receiving Water Limitation for temperature, based on a Basin Plan Water Quality Objective, which states that the discharge shall not cause “the natural temperature to be raised by more than 5° F. Since the natural hot springs are downstream of the point of discharge, one can assume that the upstream water in Indian

Springs Creek, when present, is well below 100 ° F. The discharge is pumped groundwater from a separate aquifer. There is a reasonable potential that the discharge causes violation of the Receiving Water Limitation for temperature and therefore the Basin Plan water quality objective for temperature.

The Regional Board's Assistant Executive Officer stated under oath during the Regional Board hearing adopting the Order that the discharge exceeded the Basin Plan's receiving water temperature objective. The Regional Board's response to comments also admits that the discharge exceeded the Basin Plans receiving water temperature objective. In accordance with Federal Regulations, 40 CFR 122.44, an effluent limitation for temperature is required since the discharge presents a reasonable potential to exceed a water quality objective and the Basin Plan.

- E. The data clearly shows that the discharge threatens to exceed CTR standards for aldrin, beta BHC, and delta BHC and the more restrictive Basin Plan water quality objective for Pesticides and Effluent Limitations are therefore required, in accordance with the SIP, CTR and Federal Regulations 40 CFR 122.44, to include an effluent limitation.

The Permit Fact Sheet states that: "Aldrin, beta BHC (betahexachlorocyclohexane), and delta BHC are chlorinated hydrocarbon pesticides. The Basin Plan requires that no individual pesticides shall be present in concentrations that adversely affect beneficial uses; discharges shall not result in pesticide concentrations in bottom sediments or aquatic life that adversely affect beneficial uses; total chlorinated hydrocarbon pesticides shall not be present in the water column at detectable concentrations; and pesticide concentrations shall not exceed those allowable by applicable antidegradation policies. The CTR contains numeric criteria for aldrin, beta BHC, and delta BHC of 0.00013 mg/L, 0.014 mg/L, and 500 mg/L, respectively, for freshwaters from which both water and organisms are consumed. Aldrin, beta BHC and delta BHC were detected in the effluent at concentrations of 0.002 mg/L, 0.003 mg/L, and 0.005 mg/L, respectively, on 17 November 2005. Two additional sets of sampling data collected by Regional Water Board staff on 24 January 2006 and 23 February 2006 showed that aldrin, beta BHC, and delta BHC were not detectable in the effluent. Section 1.2 of the SIP states that, "The RWQCB shall have discretion to consider if any data are inappropriate or insufficient for use in implementing this Policy." The source water is from geothermal springs. There are no agricultural operations in the vicinity that might account for the presence of pesticides. Nor has there been a past presence of such operations. Based on the results of the January and February 2006 sampling episodes, the RWQCB has concluded that there is not a sufficient basis for the establishment of effluent limitations. However, this Order does include a requirement for the sampling of priority pollutants. If subsequent monitoring indicates the presence of organochlorine pesticides in amounts that would violate the Basin Plan requirements, this Order may be reopened and effluent limitations established." The Regional Board staff does not fully cite SIP Section 1.2 in choosing to eliminate use of the data for organochlorine pesticides. SIP Section 1.2 also states that the Regional Board shall use all available, relevant, representative data and information as determined by the RWQCB. The SIP, Section 1.2,

further gives examples where data should be judged inappropriate (e.g. erroneously reported, not representative, questionable QA/QC). It is not the intent of the SIP, to allow the Regional Board throw out data simply to avoid effluent limitations. The Regional Board does not discuss how much total data was collected, why two samples in January and February 2006 would be more accurate or relevant than a sample collected in November 2005. The Regional Board does not discuss any inadequacies with the QA/QC of the samples they are proposing to discard. The Regional Board does not discuss the fact the priority pollutants are generally *not* found in wastewater discharges at consistent concentrations; peaks are the norm not the exception.

- F. Electrical Conductivity and Total Dissolved Solids (TDS) information is insufficient to determine if the discharge exceeds water quality standards and objectives and the permit should be remanded back to the Regional Board in accordance with Federal Regulations and state law.

The Permit does not present any information that allows the public to determine whether the Regional Board is conducting an adequate reasonable potential analysis. Any information regarding EC or TDS could not be located in the Permit or attachments. It is reasonable, however to conclude that geothermal waters would contain significant dissolved salts and metals. The Permit Fact Sheet states that: “The RWQCB is developing a salinity policy for the Central Valley Region. Until such time as the policy is adopted and implemented, effluent limitations for EC and TDS are not being established in this Order. Monitoring for both parameters is being required. If subsequent monitoring indicates the presence of EC or TDS in concentrations that would result in the necessity of controlling either of these parameters, this Order may be reopened and effluent limitations established.” Federal Regulations, 40 CFR 122.44, require that if a wastewater discharge presents a reasonable potential to exceed a water quality objective or standard that an effluent limitation is required to be included in the NPDES permit. The Basin Plan includes Water Quality Objectives for Chemical Constituents, drinking water MCLs are included by reference, and for the protection of beneficial uses of Irrigated Agriculture. The Federal Regulations do not state that Effluent Limitations are not necessary if the Regional Board is undertaking the development of a policy. Ultimately, the Regional Board’s “policy” must also comply with the applicable regulations. California Water Code, section 13377, requires that: “Notwithstanding any other provision of this division, the state board and the regional boards shall, as required or authorized by the Federal Water Pollution Control Act, as amended, issue waste discharge and dredged or fill material permits which apply and ensure compliance with all applicable provisions of the act and acts amendatory thereof or supplementary, thereto, together with any more stringent effluent standards or limitations necessary to implement water quality control plans, or for the protection of beneficial uses, or to prevent nuisance.” There is insufficient information in the permit to determine whether the discharge exceeds water quality standards and objectives and the permit should be remanded back to the Regional Board in accordance with Federal Regulations and state law.

- G. The permit does not contain an Effluent Limitation for Acute toxicity that is protective of the Basin Plan toxicity water quality objective.

Federal regulations, at 40 CFR 122.44 (d)(1)(i), require that limitations must control all pollutants or pollutant parameters which the Director determines are or may be discharged at a level which will cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality. The Water Quality Control Plan for the Sacramento/ San Joaquin River Basins (Basin Plan), Water Quality Objectives (Page III-8.00) for Toxicity is a narrative criteria which states that all waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life. This section of the Basin Plan further states, in part that, compliance with this objective will be determined by analysis of indicator organisms. The Tentative Permit requires that the Discharger conduct a single acute toxicity test during the life of the Permit. However, the Tentative Permit contains a discharge limitation that allows 30% mortality (70% survival) of fish species in any given toxicity test. For an ephemeral or low flow stream, allowing 30% mortality in acute toxicity tests allows that same level of mortality in the receiving stream, in violation of federal regulations and contributes to exceedance of the Basin Plan's narrative water quality objective for toxicity. Accordingly, the Order should be remanded back to the Regional Board to be revised to actually prohibit acute toxicity.

- H. The permit does not contain an Effluent Limitation for Chronic toxicity that is protective of the Basin Plan toxicity water quality objective.

With regard to Chronic Toxicity the Permit states: "The Basin Plan contains a narrative toxicity objective that states, "All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life." (Basin Plan at III-8.00.) Due to the nature of a spent geothermal wastewater discharge, the discharge has reasonable potential to cause or contribute to an to an in-stream excursion above of the Basin Plan's narrative toxicity objective. No dilution has been granted for the chronic condition. Therefore, chronic toxicity testing results exceeding 1 chronic toxicity unit (TUc) demonstrates the discharge has a reasonable potential to cause or contribute to an exceedance of the Basin Plan's narrative toxicity objective. Numeric chronic WET effluent limitations have not been included in this order." The Tentative Permit states that: "...to ensure compliance with the Basin Plan's narrative toxicity objective, the discharger is required to conduct whole effluent toxicity testing...". The Permit that states that chronic toxicity testing results exceeding 1 chronic toxicity unit (TUc) demonstrates the discharge has a reasonable potential to cause or contribute to an exceedance of the Basin Plan's narrative toxicity objective. Unfortunately the next line in the Permit states that: "Numeric chronic WET effluent limitations have not been included in this order." The Permit does not contain a limitation and essentially eviscerates the Regional Board's authority, and the authority granted to third parties under the Clean Water Act, to find the Discharger in violation for discharging chronically toxic constituents. The permit should be remanded back to the Regional Board and an effluent limitation for chronic toxicity must be included in the Order.

I. The Order is not consistent with the state and Regional Board's Antidegradation Policy.

The Permit Fact Sheet states that: "Section 131.12 of 40 CFR requires that State water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution 68-16, which incorporates the requirements of the federal antidegradation policy. Resolution 68-16 requires that existing water quality is maintained unless degradation is justified based on specific findings. As discussed in detail in this Fact Sheet, the permitted discharge is consistent with the antidegradation provision of 40 CFR §131.12 and State Water Board Resolution 68-16. Compliance with these requirements will result in the use of best practicable treatment or control of the discharge. The impact on existing water quality will be insignificant." The Regional Board must apply the antidegradation policy whenever it takes an action that will lower water quality. (State Antidegradation Guidance, pp. 3, 5, 18, and Region IX Guidance, p. 1.) Application of the policy does not depend on whether the action will actually impair beneficial uses. (State Antidegradation Guidance, p. 6. Actions that trigger use of the antidegradation policy include issuance, re-issuance, and modification of NPDES and Section 404 permits and waste discharge requirements, waiver of waste discharge requirements, issuance of variances, relocation of discharges, issuance of cleanup and abatement orders, increases in discharges due to industrial production and/or municipal growth and/or other sources, exceptions from otherwise applicable water quality objectives, etc. (State Antidegradation Guidance, pp. 7-10, Region IX Guidance, pp. 2-3.) Both the state and federal policies apply to point and nonpoint source pollution. (State Antidegradation Guidance p. 6, Region IX Guidance, p. 4.) The Order states that: "Compliance with these requirements will result in the use of best practicable treatment or control of the discharge." However, there has apparently been only one sampling event for priority pollutants, although the Permit does not contain sufficient information to verify if the sampling event was for all priority pollutants and that the detection levels were sufficient to determine reasonable potential. The Regional Board has also elected to throw out any data point that showed reasonable potential (See above comments for organochlorine pesticides, EC, TDS and Zinc). There is insufficient information in the Permit to determine the actual water quality impacts of the discharge and therefore there is insufficient information to determine whether the Discharger provides BPTC. The permit should be remanded back to the Regional Board to be modified to comply with the Antidegradation Policy.

5. THE MANNER IN WHICH THE PETITIONERS ARE AGGRIEVED.

CSPA is a non-profit, environmental organization that has a direct interest in reducing pollution to the waters of the Central Valley. CSPA's members benefit directly from the waters in the form of recreational hiking, photography, fishing, swimming, hunting, bird watching, boating, consumption of drinking water and scientific investigation. Additionally, these waters are an important resource for recreational and commercial fisheries.

Central Valley waterways also provide significant wildlife values important to the mission and purpose of the Petitioners. This wildlife value includes critical nesting and feeding grounds for resident water birds, essential habitat for endangered species and other plants and animals, nursery areas for fish and shellfish and their aquatic food organisms, and numerous city and county parks and open space areas.

CSPA's members reside in communities whose economic prosperity depends, in part, upon the quality of water. CSPA has actively promoted the protection of fisheries and water quality throughout California before state and federal agencies, the State Legislature and Congress and regularly participates in administrative and judicial proceedings on behalf of its members to protect, enhance, and restore declining aquatic resources.

CSPA member's health, interests and pocketbooks are directly harmed by the failure of the Regional Board to develop an effective and legally defensible program addressing discharges to waters of the state and nation.

6. THE SPECIFIC ACTION BY THE STATE OR REGIONAL BOARD WHICH PETITIONER REQUESTS.

Petitioners seek an Order by the State Board to:

- A. Vacate Order No. R5-2006-0104 (NPDES No. CA0081655) and remand to the Regional Board with instructions prepare and circulate a new tentative order that comports with regulatory requirements.

7. A STATEMENT OF POINTS AND AUTHORITIES IN SUPPORT OF LEGAL ISSUES RAISED IN THE PETITION.

CSPA's arguments and points of authority are adequately detailed in the preceding comments, its 19 September 2006 letter that was accepted into the record and its oral testimony presented to the Regional Board on 22 September 2006. Should the State Board have additional questions regarding the issues raised in this petition, CSPA will provide additional briefing on any such questions.

The petitioners believe that an evidentiary hearing before the State Board will not be necessary to resolve the issues raised in this petition. However, CSPA welcomes the opportunity to present oral argument and respond to any questions the State Board may have regarding this petition.

8. A STATEMENT THAT THE PETITION HAS BEEN SENT TO THE APPROPRIATE REGIONAL BOARD AND TO THE DISCHARGERS, IF NOT THE PETITIONER.

A true and correct copy of this petition, without attachment, was sent electronically and by First Class Mail to Ms. Pamela Creedon, Executive Officer, Regional Water Quality Control Board, Central Valley Region, 11020 Sun Center Drive #200, Rancho Cordova, CA 95670-6114.

A true and correct copy of this petition, without attachment, was sent to the Discharger in care of Mr. Michael Grady, Superintendent, Indian Springs Elementary School, P.O. Box 317, Big Bend, CA 96011.

9. A STATEMENT THAT THE ISSUES RAISED IN THE PETITION WERE PRESENTED TO THE REGIONAL BOARD BEFORE THE REGIONAL BOARD ACTED, OR AN EXPLANATION OF WHY THE PETITIONER COULD NOT RAISE THOSE OBJECTIONS BEFORE THE REGIONAL BOARD.

CSPA presented the issues addressed in this petition to the Regional Board in live oral testimony at the 22 September 2006 hearing on the Order or in comments submitted to the Regional Board on 19 September 2006 that were accepted into the record.

If you have any questions regarding this petition, please contact Bill Jennings at (209) 464-5067 or Michael Lozeau at (510) 749-9102.

Dated: 21 October 2006

Respectfully submitted,



Bill Jennings, Executive Director
California Sportfishing Protection Alliance

Attachments:

- A. Order No. R5-2006-0104